

VS Id#	Vital Sign Category			Vital Sign	Network Rank	USAR
H10	Park Use & Activities			Subsistence Farming/Agriculture	1.2	
H12	Park Use & Activities			Coral/Sand Mining Harvest	1.2	
H13	Park Use & Activities			Culturally Significant Plant Harvest	2.5	
H14	Park Use & Activities			Culturally Significant Vertebrate Species Harvest	1.6	
H17	Management Zones			Wilderness Areas - HAVO, HALE, other Unofficial	1.1	
M14	Marine Ecosystems	Water column (motile)	Population	Water Column Reef Fisheries	2.2	
M25	Marine Ecosystems	Intertidal	Population	Intertidal Reef Fisheries / Collected species (limu, opahi, crabs, fish, etc.)	2.3	
P13	Soil, Water, & Nutrient Dynamics			Soil Quality - Biological	1.7	
P16	Soil, Water, & Nutrient Dynamics			Soil Crust Change (Arid-Semiarid habitats)	0.9	
P34	Geology	Hazards		Volcanic Unrest - Ground Deformation	1.4	
P35	Geology	Hazards		Volcanic Unrest - Lava Flows	1.2	
P37	Geology	Hazards		Seismicity of Volcanic Origin	1.8	
P38	Geology	Hazards		Mass Geologic Wasting	1.6	
P40	Geology	Landforms		Dune Change (erosion & accretion)	0.9	
P41	Geology	Landforms		Permafrost on Big Island summits	0.0	
P42	Geology	Landforms		Cave Environmental conditions	2.0	
P43	Geology	Landforms		Cave Geology: non-karst	2.2	
P44	Geology	Landforms		Cave Geology: karst	0.9	
T01	Terrestrial Ecosystems	Vegetation	Landscape	Soil and Pollen Landscape History	2.3	
T02	Terrestrial Ecosystems	Vegetation	Landscape	Ecozone Boundaries	2.1	
T03	Terrestrial Ecosystems	Vegetation	Landscape	Landscape Fragments, Patch Size, Land Cover	2.6	
T04	Terrestrial Ecosystems	Vegetation	Landscape	Fire Effects & Dynamics: Vegetation and Landscape Level	2.5	
T05	Terrestrial Ecosystems	Vegetation	Landscape	Forest Dieback	1.5	
T06	Terrestrial Ecosystems	Vegetation	Community	Terrestrial Plant Biodiversity	3.6	
T07	Terrestrial Ecosystems	Vegetation	Community	Long-term Plant Succession	3.5	
T08	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Alien Plant Control	3.5	
T09	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Feral Ungulate Control	2.4	
T10	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Invasive Alien Invertebrate Control	1.8	
T11	Terrestrial Ecosystems	Vegetation	Population	Invertebrate Biocontrol of Plants	1.7	
T12	Terrestrial Ecosystems	Vegetation	Population	Plant Pathogen Biocontrol of Plants	1.6	
T14	Terrestrial Ecosystems	Vegetation	Population	Established Plant Disease & Pathogens	2.9	
T15	Terrestrial Ecosystems	Vegetation	Population	Alien Incipient Plant Disease & Pathogens	2.6	
T18	Terrestrial Ecosystems	Consumers	Community	Terrestrial Invertebrate Biodiversity	2.9	
T19	Terrestrial Ecosystems	Consumers	Community	Terrestrial Vertebrate (including off-shore islets refugia) Biodiversity	3.3	
T20	Terrestrial Ecosystems	Consumers	Community	Recovery/Change of Native Invertebrates Communities with Native Plant Restoration	2.5	
T21	Terrestrial Ecosystems	Consumers	Community	Recovery/change of Native Wildlife and habitats (including wetlands) with restoration of native vegetation	3.2	
T22	Terrestrial Ecosystems	Consumers	Population	Invertebrate Biocontrol of Invertebrates	1.7	
T23	Terrestrial Ecosystems	Consumers	Population	Forest Birds and Bats (includes T & E spp.)	3.1	
T24	Terrestrial Ecosystems	Consumers	Population	Herps (native)	1.7	
T28	Terrestrial Ecosystems	Consumers	Population	Terrestrial Invertebrates Associated with Habitat Quality	2.7	
T29	Terrestrial Ecosystems	Consumers	Population	Terrestrial Invertebrate Species Protection (T, E, S-o-C Species)	2.9	
T30	Terrestrial Ecosystems	Consumers	Population	Established Disease & Pathogens of Terrestrial Vertebrates	2.5	
T31	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Disease & Pathogens of Terrestrial Vertebrates	2.5	
T32	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Feral Ungulates	2.4	
T33	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Invasive Terrestrial Invertebrate Pests of natural systems	2.4	
T34	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Predatory Terrestrial Vertebrates	3.4	
T35	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Terrestrial Invertebrate Pests (agricultural)	1.8	
T37	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Predatory Terrestrial Vertebrate	3.3	
T38	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Fungi	2.0	
T39	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Terrestrial Invertebrates	2.2	
T40	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Vertebrates	2.6	
T41	Terrestrial Ecosystems	Cave Systems	Community	Cave & lava tube communities	2.0	
P21	Water Quality			Marine Water Quality Core parameters	3.3	5.0
P24	Water Quality			Marine Water Quality Supplemental parameters	2.9	5.0
M01	Marine Ecosystems	Benthic	Landscape	Coral Growth (erosion & accretion)	2.7	4.0
P32	Water Quality			Marine Water Quality - macroinvertebrates	2.8	4.0
H08	Park Use & Activities			Marine Recreational Activities & Groundings/Anchor Damage	2.5	3.7
M11	Marine Ecosystems	Benthic	Population	Established Alien Species - Benthic Marine	2.7	3.6
M12	Marine Ecosystems	Benthic	Population	Alien Incipient Invasives - Benthic Marine	2.8	3.6
P10	Soil, Water, & Nutrient Dynamics			Ocean/Physical Dynamics: Currents, Sea Level, Tides/Swell	2.7	3.5
H03	Viewscapes / Lightscapes			Lightscape & Night sky	2.7	3.3
M13	Marine Ecosystems	Water column (motile)	Community	Water Column Marine Vertebrates and Invertebrates Biodiversity	2.8	3.3
H01	Soundscapes			Alien, Natural, Human Soundscapes	2.6	3.2
M03	Marine Ecosystems	Benthic	Community	Benthic Marine Invertebrates and Algae Biodiversity	2.8	3.2
M05	Marine Ecosystems	Benthic	Community	Subtidal - Soft Bottom (sand flat, seagrass bed)	2.4	3.0
P01	Climate & Air Quality			Visibility	2.9	3.0
P30	Water Quality			Marine Water Quality - Toxics & contaminants	3.0	3.0
P36	Geology	Hazards		Seismicity of Non-Volcanic Origin	1.9	2.9
H09	Park Use & Activities			Footprint & Visitor Use Patterns	3.3	2.8
M07	Marine Ecosystems	Benthic	Population	Benthic Marine Invertebrates and Algae	2.7	2.8
P07	Climate & Air Quality			Weather & Climate	3.4	2.8
P23	Water Quality			Ground Water Quality Supplemental parameters	2.6	2.8
P27	Water Quality			Marine Water Quality - Microbiology	2.8	2.8
H02	Viewscapes / Lightscapes			Viewsheds	2.7	2.7
M27	Marine Ecosystems	Intertidal	Population	Established Alien Species - Intertidal Marine	2.5	2.6
M28	Marine Ecosystems	Intertidal	Population	Alien Incipient Invasives - Intertidal Marine	2.6	2.6
P39	Geology	Landforms		Coastal Shoreline Change (erosion & accretion)	3.2	2.5
F5	Freshwater Ecosystems	Consumers	Population	Established Alien Species - Predatory Freshwater (vertebrate and invertebrate)	2.9	2.4
H04	Land Use			Alien Invasive Species Points of Entry	3.4	2.4
P29	Water Quality			Ground Water Quality - Toxics & contaminants	2.8	2.4
P31	Water Quality			Surface Water Quality - Toxics & contaminants	3.7	2.4
F4	Freshwater Ecosystems	Consumers	Population	Amphidromous Fauna Size-Age Structure, Reproduction and Recruitment	2.1	2.3
H05	Land Use			Water Use(s) Within & Surrounding Parks	3.0	2.3
P22	Water Quality			Surface Water Quality Core parameters	3.6	2.3
H07	Park Use & Activities			Litter/debris	3.1	2.2
H11	Park Use & Activities			Bio-prospecting Harvest	1.9	2.2
P20	Water Quality			Ground Water Quality Core parameters	2.8	2.2
T25	Terrestrial Ecosystems	Consumers	Population	Invertebrate Charismatic or Species of Concern	3.2	2.2
T26	Terrestrial Ecosystems	Consumers	Population	Seabirds (including T & E spp.)	3.5	2.2
M17	Marine Ecosystems	Water column (motile)	Population	Established Alien Species - Water Column Marine	2.5	2.2
M19	Marine Ecosystems	Water column (motile)	Population	Fish Growth/Size and Age Structure, and Recruitment	3.2	2.2
M20	Marine Ecosystems	Water column (motile)	Population	Marine Species Protection (T, E, S-o-C species)	3.3	2.2
P03	Climate & Air Quality			Atmospheric Gases: Climate Change Indicators, Human Pollutants, Natural-Volcanic	2.2	2.2
P05	Climate & Air Quality			Atmospheric Particulates: Climate Change Indicators, Human Pollutants, Natural-Volcanic	2.2	2.2
H06	Land Use			Land Use(s) Within & Surrounding Parks	3.4	2.1
T36	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Terrestrial Invertebrate Pests (human structures)	1.9	2.0
M18	Marine Ecosystems	Water column (motile)	Population	Water Column Marine Invertebrates	2.8	2.0
M21	Marine Ecosystems	Water column (motile)	Population	Alien Incipient Invasives - Water Column Marine	2.1	2.0

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M26	Marine Ecosystems	Intertidal	Population	Intertidal Marine Invertebrates, Fish, and Algae	3.0	2.0
P25	Water Quality			Surface Water Quality Supplemental parameters	3.5	2.0
P19	Soil, Water, & Nutrient Dynamics			Groundwater dynamics	2.4	1.9
P28	Water Quality			Surface Water Quality - Microbiology	2.9	1.9
P12	Soil, Water, & Nutrient Dynamics			Soil Erosion	2.9	1.8
P15	Soil, Water, & Nutrient Dynamics			Soil Quality- Physical	2.3	1.8
M04	Marine Ecosystems	Benthic	Community	Subtidal - Hard Bottom (coral reef, colonized basalt, etc.)	2.7	1.8
T27	Terrestrial Ecosystems	Consumers	Population	Shorebirds and Waterbirds (including T & E spp.)	3.3	1.8
M08	Marine Ecosystems	Benthic	Population	Coral Growth/Size and Age Structure, and Recruitment	2.6	1.8
P33	Water Quality			Surface Water Quality - macroinvertebrates	2.6	1.7
T13	Terrestrial Ecosystems	Vegetation	Population	Native Plant Species Protection (T, E, S-o-C species)	4.0	1.7
P06	Climate & Air Quality			Solar radiation	2.7	1.7
M15	Marine Ecosystems	Water column (motile)	Population	Established Marine Animal (other than turtles) Disease & Pathogens	1.9	1.6
M16	Marine Ecosystems	Water column (motile)	Population	Established Turtle Disease & Pathogens	2.9	1.6
M22	Marine Ecosystems	Intertidal	Community	Intertidal Biodiversity - Vertebrates, Invertebrates, and Algae	3.1	1.6
T16	Terrestrial Ecosystems	Vegetation	Population	Established Alien Species - Plants	4.0	1.6
T17	Terrestrial Ecosystems	Vegetation	Population	Alien Incipient Invasive Plants	3.7	1.6
F6	Freshwater Ecosystems	Consumers	Population	Alien Incipient Invasives - Predatory Freshwater (vertebrate and invertebrate)	2.8	1.5
M24	Marine Ecosystems	Intertidal	Community	Intertidal - Soft Bottom (sand beach, mudflat, mangrove)	2.6	1.4
P08	Climate & Air Quality			Extreme events (weather & ocean)	3.0	1.4
P18	Soil, Water, & Nutrient Dynamics			Wetlands (incl. anchialine pools) hydrology	3.2	1.4
P09	Climate & Air Quality			Climate Representations - 2- & 3- dimensional	1.7	1.3
P11	Soil, Water, & Nutrient Dynamics			Biogeochemical Cycles - Nutrient Cycling	2.5	1.3
H15	Park Use & Activities			Reef Fisheries Harvest	2.6	1.2
M09	Marine Ecosystems	Benthic	Population	Established Coral Disease & Pathogens (including bleaching)	2.4	1.2
M10	Marine Ecosystems	Benthic	Population	Alien Incipient Coral Disease & Pathogens	2.5	1.2
M06	Marine Ecosystems	Benthic	Population	Benthic Reef Fisheries / Collected species (inverts: sea cucumbers, pololo worm, corals; etc)	2.7	1.0
M23	Marine Ecosystems	Intertidal	Community	Intertidal - Hard Bottom	2.2	1.0
P26	Water Quality			Ground Water Quality - Microbiology	2.9	1.0
M02	Marine Ecosystems	Benthic	Landscape	Benthic Habitats	2.6	0.9
H16	Management Zones			Management Zone uses	3.1	0.9
F2	Freshwater Ecosystems	Consumers	Community	Aquatic and Riparian Species (vertebrate and invertebrate) Biodiversity	3.5	0.8
P17	Soil, Water, & Nutrient Dynamics			Flowing surface water hydrology	2.7	0.6
F3	Freshwater Ecosystems	Consumers	Population	Freshwater Animals Disease & Pathogen	2.2	0.5
P02	Climate & Air Quality			Atmospheric Deposition: Wet (direct & occult) and Dry	2.1	0.5
P04	Climate & Air Quality			Marine Aerosols	1.4	0.3
F1	Freshwater Ecosystems	Producers		Community dynamics of primary producers	2.5	0.2
P14	Soil, Water, & Nutrient Dynamics			Soil Quality- Chemical	1.9	0.0